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मानक

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Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS/QC 960301 (1999): Electromechanical Switches for Use in Electronic Equipment, Part 6: Sectional Sensitive Switches, Section 2: Detail Specification [LITD 3: Electromechanical Components and Mechanical Structures for Electronic Equipment]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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भारतीय मानक

इलैक्ट्रॉनिकी उपस्कर में उपयोग के लिए विद्युतयांत्रिक स्विच

भाग 6 संवेदनशील स्विचों के लिए विषय विशिष्टि

अनुभाग 2 एक ध्रुव के लिए विस्तृत विशिष्टि, सीलरहित उपलघु संवेदनशील स्विच,
अधिकतम 250 वो, अधिकतम 5 ए विद्युत रेटिंग

Indian Standard

ELECTROMECHANICAL SWITCHES FOR USE IN ELECTRONIC EQUIPMENT

PART 6 SECTIONAL SPECIFICATION FOR SENSITIVE SWITCHES

Section 2 Detail Specification for One Pole, Unsealed Subminiature Sensitive Switches,
250 V Maximum, 5 A Maximum Electrical Rating

ICS 31.220.20

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BUREAU OF INDIAN STANDARDS
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NATIONAL FOREWORD

This Indian Standard which is identical with IEC 1020-6-2/IEC QC 960301 (1994) 'Electromechanical switches for use in electronic equipment — Part 6 : Sectional specification for sensitive switches — Section 2 : Detail specification for one pole, unsealed subminiature sensitive switches, 250 V maximum, 5 A maximum electrical rating', issued by the International Electrotechnical Commission (IEC), was adopted by the Bureau of Indian Standards on the recommendation of Electromechanical Components and Mechanical Structures for Electronic Equipment Sectional Committee (LTD 7) and approval of the Electronics and Telecommunication Division Council.

The text of the IEC standard has been approved as suitable for publication as Indian Standard without deviations. Certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'.
- b) Comma (,) has been used as a decimal marker while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

Only the English language text in the International Standard has been retained while adopting it in this Indian Standard.

This standard is intended primarily for use under IECQ system.

CROSS REFERENCES

In this adopted standard, reference appears to certain International Standards for which Indian Standards also exist. The corresponding Indian Standards which are to be substituted in their place are listed below along with their degree of equivalence for the editions indicated:

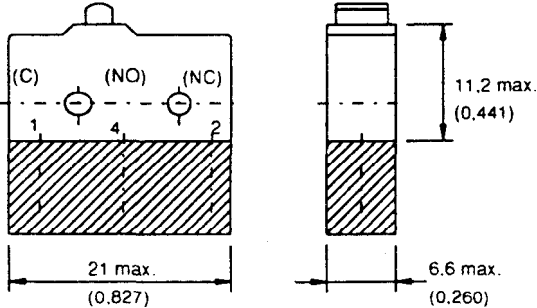
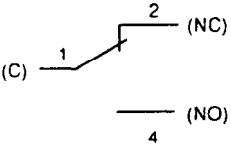
<i>International Standard</i>	<i>Corresponding Indian Standard</i>	<i>Degree of Equivalence</i>
IEC 1020-1/IEC QC 960000 (1991) Electromechanical switches for use in electronic equipment — Part 1 : Generic specification	IS QC 960000 : 1994 Electromechanical switches for use in electronic equipment : Part 1 Generic specification	Identical
IEC 1020-6/IEC QC 960300 (1991) Electromechanical switches for use in electronic equipment — Part 6 : Sectional specification for sensitive switches	IS QC 960300 : 1999 Electromechanical switches for use in electronic equipment : Part 6 Sectional specification for sensitive switches	do

Indian Standard

ELECTROMECHANICAL SWITCHES FOR USE IN ELECTRONIC EQUIPMENT

PART 6 SECTIONAL SPECIFICATION FOR SENSITIVE SWITCHES

Section 2 Detail Specification for One Pole, Unsealed Subminiature Sensitive Switches, 250 V Maximum, 5 A Maximum Electrical Rating

Generic specification number ELECTRONIC COMPONENTS OF ASSESSED QUALITY IN ACCORDANCE WITH: IEC 1020-1 (QC 960000) [3]	Detail specification number IEC 1020-6-2 (QC 960301XX0001) [2] Blank detail specification number IEC 1020-6-1 (QC 960301) [4]
Outline drawing – Maximum enclosure dimensions (Third angle of projection) [7]  NOTES 1 See figure 1 for full dimensional requirements. 2 Dimensions are in mm: 0,0 and inch: (0,000). 3 For detail dimensions, see figures 2 and 3. 4 Shape is optional within the specified dimensions.	Product description [5] - Sensitive switch - Subminiature size - One pole - Unsealed - 5 A maximum current rating - 250 V maximum voltage rating - Seven standard actuator styles - Eight terminal styles Electrical circuit [6] - Single break contacts - Momentary action - Double throw contacts  Constructional details [8] - Plastic pin plunger - Metal lever actuators - Plastic housing - Contact gap less than 3 mm
NOTE – Information on the availability of components qualified to this specification is given in the qualified products list	

1 General data

1.1 Dimensions

1.1.1 Mounting dimensions

The mounting dimensions shall be in accordance with figure 1, and are common to all switches covered by this detail specification. The configuration is optional within the specified dimensions.

1.1.2 Actuator dimensions

The actuator dimensions shall be in accordance with figures 1 and 2.

1.1.3 Terminal dimensions

The terminal dimensions shall be in accordance with figure 3.

1.2 Ratings and characteristics

1.2.1 Electrical ratings

- power see table 1
- logic level 5 V, 10 mA applicable for codes F, G
- low level not applicable

Table 1 – Electrical rating codes

Rating code	Sea level			15 240 m 50 000 ft	Electrical endurance cycles
	125 V a.c.	250 V a.c.	28 V d.c.	28 V d.c.	
M	5 A	5 A	5 A	5 A	25 000
S	5 A	5 A	5 A	-	100 000
G	1 A	-	1 A	-	100 000
F	0,1 A	-	0,1 A	-	100 000

1.2.2 Environmental ratings

Climatic category

- environmental category A 55/125/21
- environmental category B 55/085/21
- environmental category C 40/085/21
- environmental category D 25/085/21
- environmental category E 10/085/04

Low air pressure	400 V r.m.s. a.c. at 8 kPa
– rating code M	
Rapid change of temperature	applicable
Salt mist	not applicable
Shock	pin plunger switch only 500 m/s ² (50 g) 11 ms contact disturbance 10 µs max.
Vibration	pin plunger switch only 196 m/s ² (20 g) 10 Hz – 2 000 Hz contact disturbance 10 µs max.

1.2.3 Mechanical characteristics

Functional operation	test circuitry: codes F, G 100 mA 6 V d.c. max. codes M, S 150 mA 30 V d.c. max.
Immersion in cleaning solvents	not applicable
Mass (pin plunger switch)	4,5 g (0,01 lbs) max. + 0,5 g for actuator type 2 + 1 g for actuators types 3, 4, 5
Operating characteristics	see table 2
Robustness of:	
– actuator	
– type 1	45 N
– types 2 to 5	2,3 N
– mounting bushing	not applicable
– screw mounting	0,3 Nm (a washer can be used)
– termination	Ua 40 N (8,8 lbf) all terminations Ub 22,5° – 10 N (2,2 lbf) type 4 (if applicable)
Seal	not applicable
Solderability (solder terminals only)	solderability according to 4.13 of IEC 1020-1

1.2.4 Electrical characteristics

Capacitance	not applicable
Contact bounce	6 ms maximum (electrical rating codes F and G only)
Contact resistance	
– electrical rating	F, G 50 mΩ max. measured at 6 V d.c. 100 mΩ for discrete number 01 to 10 150 mΩ for discrete number 11 M, S 50 mΩ max. measured at 30 V, 1 A d.c.

Electrical overload

applicable to electrical rating codes
M and S only.

Endurance

30 operations per minute.

- electrical – C, T, R
- electrical – Low air pressure
- logic level
- low level
- mechanical – C, T, R

according to table 1 with no sticks
or misses

according to table 1 with no sticks
or misses

5 V 10 mA 100 000 cycles no sticks or
misses

not applicable

100 000 cycles of operation

Insulation resistance

1 000 MΩ min.

Temperature rise

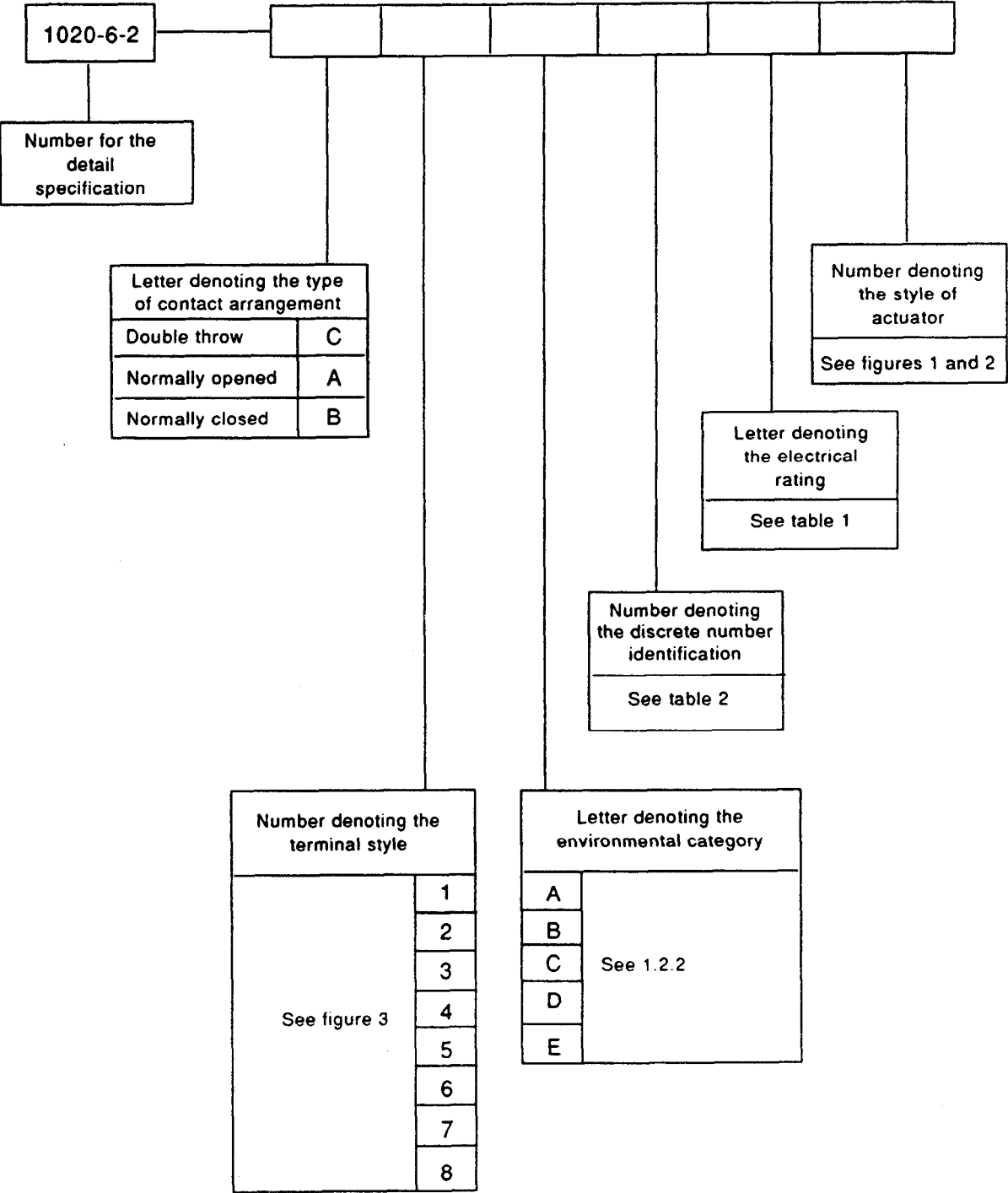
45 °C max.

Voltage proof

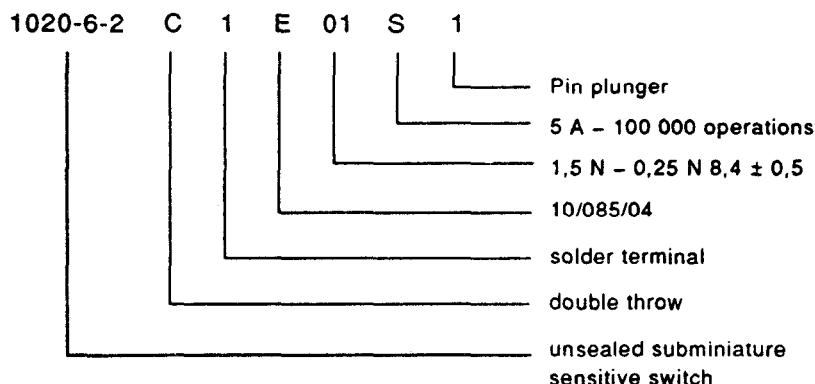
rating code	G, F	M, S
basic insulation	1 000 V	1 250 V
across open contacts	390 V	750 V

1.3 IEC type designation

Switches covered by this detail specification shall be described by the following:



Example of IEC type designation: 1020-6-2-C1E01 S1



1.4 Marking

The marking of the switch and package shall be in accordance with the requirements of 2.5 of IEC 1020-1. The switch shall be marked with the following information:

- terminal identification as in figure 1;
- type designation as in 1.3;
- manufacturer's name and trade mark;
- date code.

1.5 Ordering information

Orders for switches covered by this specification shall contain the following information as a minimum:

- the applicable part number according to 1.3;
- "In accordance with IEC 1020-6-2 (1994), 1st edition";
- when certified records of released lots are required, include "CERTIFIED RECORDS REQUIRED";
- when test reports for periodic inspection are required, include "TEST REPORTS FOR PERIODIC INSPECTION REQUIRED".

1.6 Certified records of released lots

When certified records of release lots are required by the buyer, the supplier shall provide the attribute data (i.e. number of components tested and number of defective components) for each lot-by-lot acceptance test performed on the products shipped to the buyer. In addition, the supplier shall provide the buyer with the complete test report for the last complete periodic inspection. If no group D has been performed, the supplier shall provide the qualification test report.

1.7 Additional information (not for inspection purposes)

None.

1.7.1 *Safety considerations*

The user shall consider the suitability of the switch with regard to any relevant national or international safety standards for the equipment or the component, e.g. IEC 1058-1.

1.8 *Increased severities or requirements which are additional to those specified in the generic and/or sectional specification*

None.

Table 2 – Discrete Identification of type 1 switches (pin plunger)

Discrete number	Operate force (max.) N	Release force (min.) N	Operate position		Movement differential max.		Over-travel min.		Pre-travel max.	
			mm	inch	mm	inch	mm	inch	mm	inch
01	1,5	0,25	8,4 ± 0,5	0,331 ± 0,020	0,10	0,004	0,10	0,004	1,2	0,047
02	1,5	0,25	8,4 ± 0,3	0,331 ± 0,012	0,15	0,006	0,40	0,016	1,2	0,047
03	1,5	0,25	8,4 ± 0,3	0,331 ± 0,012	0,25	0,010	0,60	0,024	1,2	0,047
04	0,5	0,04	8,4 ± 0,5	0,331 ± 0,020	0,10	0,004	0,10	0,004	1,2	0,047
05	0,5	0,1	8,4 ± 0,3	0,331 ± 0,012	0,15	0,006	0,40	0,016	1,2	0,047
06	0,5	0,1	8,4 ± 0,3	0,331 ± 0,012	0,25	0,010	0,60	0,024	1,2	0,047
07	3	0,5	8,4 ± 0,3	0,331 ± 0,012	0,1	0,004	0,1	0,004	1,2	0,047
08	0,6	0,15	8,4 ± 0,3	0,331 ± 0,012	0,1	0,004	0,1	0,004	1,2	0,047
09	0,9	0,20	8,4 ± 0,3	0,331 ± 0,012	0,1	0,004	0,1	0,004	1,2	0,047
10	2	0,35	8,4 ± 0,5	0,331 ± 0,020	0,1	0,004	0,1	0,004	1,2	0,047
11	0,25	0,02	8,4 ± 0,5	0,331 ± 0,020	0,1	0,004	0,1	0,004	1,2	0,047

NOTE – See figure 1 for free position.

2 Inspection requirements

2.1 Structurally similar devices

(Under consideration)

2.2 Preconditioning

None.

2.3 Qualification approval inspection

In accordance with IEC 1020-6, the qualification approval inspection shall be carried out with details and requirements from table 4.

The sampling procedure for qualification of multiple products shall be in accordance with table 3.

Table 3 – Sampling procedure for qualification approval

Subclause number and test designation (See note 1)	Test specimen
<i>Group 0</i> (non-destructive)	
4.3.1 Visual examination	All test units
4.3.4 Mass	All test units
4.3.5 Functional operation	All test units
4.4.2 Contact resistance	All test units
4.4.4 Insulation resistance	All test units
4.5.1 Voltage proof	All test units
4.3.6 Operating characteristics	All test units
<i>Group 0A</i> (non-destructive)	
4.3.2 Dimensions	2 units of each terminal configuration and each actuator style
4.3.7 Contact bounce	4 test units
<i>Group 1</i> (destructive)	
4.8.4 Robustness of terminations	4 test units of each terminal style
4.8.1 Robustness of actuator	4 test units of each actuator style
4.11.1 Electrical overload	4 units for each electrical rating code
4.10.1 Electrical endurance C, T, R	All test units from test 4.11.1 code
4.6.1 Temperature rise	All test units from test 4.11.1 code
4.10.4 Electrical endurance – Low air pressure	4 units (electrical rating code M only)
4.10.5 Electrical endurance – Logic circuits	4 units for each electrical load (rating codes F and G only)
4.4.2 Contact resistance	All group 1 test units
4.4.4 Insulation resistance	All group 1 test units
4.5.1 Voltage proof	All group 1 test units
4.3.6 Operating characteristics	All group 1 test units

Table 3 – (concluded)

Subclause number and test designation (See note 1)	Test specimen
<i>Group 2 (destructive)</i> 4.12.3 Rapid change of temperature 4.7.2 Vibration 4.7.1 Shock 4.12.1 Climatic sequence 4.4.2 Contact resistance 4.4.4 Insulation resistance 4.5.1 Voltage proof 4.3.6 Operating characteristics 4.3.5 Functional operation	4 test units of each actuator style and environmental category 4 test units of actuator type 1 4 test units of actuator type 1 4 test units of each actuator style and environmental category All group 2 test units All group 2 test units All group 2 test units All group 2 test units All group 2 test units
<i>Group 3 (destructive)</i> 4.12.2 Damp heat 4.4.2 Contact resistance 4.4.4 Insulation resistance 4.5.1 Voltage proof 4.3.6 Operating characteristics 4.3.5 Functional operation	4 test units of environmental category codes A, B, C or D 4 test units of environmental category code E All group 3 test units All group 3 test units All group 3 test units All group 3 test units All group 3 test units
<i>Group 5 (destructive)</i> 4.9.2 Mechanical endurance – Category temperature range 4.4.2 Contact resistance 4.5.1 Voltage proof 4.3.6 Operating characteristics	4 test units of each environmental category and electrical All group 5 test units All group 5 test units All group 5 test units
<i>Group 7 (destructive)</i> 4.13.1 Solderability	4 test units of terminal types 1, 2, 3, 6, 7, 8 and 9
<i>Group 8 (destructive)</i> 4.13.4 Resistance to soldering heat 4.3.6 Operating characteristics	4 test units of terminal types 1, 2, 3, 6, 7, 8 and 9 All group 8 units
NOTE 1 – The subclause numbers of the test and performance requirements refer to the generic specification for electromechanical switches, IEC 1020-1, with the supplementary requirements specified in this section. Spare test specimens may be included in group 0.	

Table 4 – Test schedule for qualification approval

Subclause number and test designation (See note 1)	Conditions of test (See note 1)	Sample size and criterion for acceptability (See note 2)			Performance requirements (See note 1)									
		<i>n</i>	<i>td</i>	<i>c</i>										
Group 0 (non-destructive)		All test units	0	0	See table 5									
4.3.1 Visual examination														
4.3.5 Functional operation														
4.4.2 Contact resistance	<table><tr><td>Rating code</td><td>U V</td><td>I A</td></tr><tr><td>M, S</td><td>30</td><td>1</td></tr><tr><td>G, F</td><td>6</td><td>0,1</td></tr></table>					Rating code	U V	I A	M, S	30	1	G, F	6	0,1
Rating code	U V					I A								
M, S	30					1								
G, F	6					0,1								
4.4.4 Insulation resistance	U: 500 ± 50 V													
4.5.1 Voltage proof	<table><tr><td>Rating code</td><td>Basic insulation U V</td><td>Across open contact U V</td></tr><tr><td>M, S</td><td>1 250</td><td>750</td></tr><tr><td>G, F</td><td>1 000</td><td>390</td></tr></table>	Rating code	Basic insulation U V	Across open contact U V	M, S	1 250	750	G, F	1 000	390				
Rating code	Basic insulation U V	Across open contact U V												
M, S	1 250	750												
G, F	1 000	390												
4.3.6 Operating characteristics				50 mΩ 50 mΩ 1 000 MΩ min. Leakage current ≤ 500 μA See table 2										
Group 0A (non-destructive)		2	0	0	All values shall be in accordance with figures 1, 2 and 3 ≤ 6 ms									
4.3.2 Dimensions		2												
4.3.4 Mass														
4.3.7 Contact bounce	U: 6 V; I: 0,1 A	4												
Group 1 (destructive)				1	No damage No damage No damage No damage No damage									
4.8.4 Robustness of terminations	All types: test Ua; F: 40 N type 4 UB 22,5° (if applicable) F: 10 N	4	1											
4.8.1 Robustness of actuator	type 1: 45 N types 2 to 7: 2,5 N	4	1											
4.11.1 Electrical overload	<table><tr><td>Rating code</td><td>Test current A</td></tr><tr><td>M, S</td><td>7,5</td></tr></table>	Rating code	Test current A	M, S		7,5	4							
Rating code	Test current A													
M, S	7,5													
4.10.3 Electrical endurance C, T, R	See notes 1 and 4, no contact monitoring	4												

Table 4 – (continued)

Subclause number and test designation (See note 1)	Conditions of test (See note 1)	Sample size and criterion for acceptability (See note 2)			Performance requirements (See note 1)
		<i>n</i>	<i>td</i>	<i>c</i>	
4.6.1 Temperature rise	Half of the test units (rating codes M, S only) and the same contact from test 4.10.1				≤ 45 °C
4.10.4 Electrical endurance – Low air pressure	Rating code M only Load: 5 A – 28 V d.c.	4	1		
4.10.5 Electrical endurance logic circuits	Rating codes F, G only Load: 5 V d.c., 10 mA cycles: 100 000 with contact monitoring	4	1		Sticks and/or misses: ≤ 1
4.4.2 Contact resistance	See group 0		1		≤ 100 mΩ
4.4.4 Insulation resistance	See group 0		1		≥ 100 MΩ
4.5.1 Voltage proof	See group 0 (1 000 V and 600 V for M, S)		1		Leakage current: ≤ 500 µA
4.3.6 Operating characteristics	See group 0		1		See table 2
Group 2 (destructive)				1	
4.12.3 Rapid change of temperature		4			No damage
4.7.2 Vibrations	Units for test 4.12.3 Acceleration: 20 g Frequency: 10 to 2 000 Hz		1		No damage
4.7.1 Shock	Units from test 4.7.2 Shock pulse: 50 g; 11 ms		1		No damage
4.12.1 Climatic sequence					No damage
4.4.2 Contact resistance	See group 0		1		≤ 100 mΩ (F, G) ≤ 50 mΩ (M, S)
4.4.4 Insulation resistance	See group 0		1		≥ 1 000 MΩ
4.5.1 Voltage proof	See group 0		1		Leakage current: ≤ 500 µA
4.3.6 Operating characteristics	See group 0		1		
4.3.5 Functional operation			0		See table 2
Group 3 (destructive)		4		1	
4.12.2 Damp heat, steady state	Environmental category Days				No damage
	A, B, C, D, F 21 F 4				
4.4.2 Contact resistance	See group 0		1		≤ 100 mΩ (F, G) ≤ 50 mΩ (M, S)
4.4.4 Insulation resistance	See group 0		1		≥ 1 000 MΩ
4.5.1 Voltage proof	See group 0		1		Leakage current: ≤ 500 µA
4.3.6 Operating characteristics	See group 0		1		See table 2
4.3.5 Functional operation			0		

Table 4 – (concluded)

Subclause number and test designation (See note 1)	Conditions of test (See note 1)		Sample size and criterion for acceptability (See note 2)			Performance requirements (See note 1)
			<i>n</i>	<i>td</i>	<i>c</i>	
Group 5 (destructive)			4		1	
4.9.2 Mechanical endurance category temperature range	Cycles: 100 000			1		No damage
4.4.2 Contact resistance	See group 0			1		≤ 100 mΩ
4.5.1 Voltage proof	See group 0			1		Leakage current: ≤ 500 μA
4.3.6 Operating characteristics	See group 0			1		See table 2
Group 7 (destructive)			4		0	
4.13.1 Solderability	Type	Test				
	1, 2, 3	12b soldering iron		0		
	5, 6	tip: style B				
	7, 8	12a		0		
Group 8 (destructive)			4	0	0	
4.13.4 Resistance to soldering heat	With screen			0		No damage
4.3.6 Operating characteristics				0		

NOTES

1 The subclause numbers of the test and performance requirements refer to the generic specification for electromechanical switches, IEC 1020-1, with the supplementary requirements specified in this section. Spare test specimens may be included in group 0.

2 All specimens in the sample shall be submitted to the tests of group 0. The specimens for group 0 shall than be subdivided for the other groups. In the groups, except group 0, all specimens shall be subjected to the required tests and tests shall be performed in the sequence shown.

Samples from group 0A are issued from group 0.

3 In this table:

n = sample size per style;

td = test acceptance criterion (permitted number of defectives per test);

c = group acceptance criterion (permitted number of defectives per group);

C, T, R = category temperature range.

4 A.C. and D.C. rating: resistive current.

Table 5 – Major characteristics for visual examination

Characteristics	Actuator type				
	1	2	3	4	5
Audible snap	x	x	x	x	x
Physical damage	x	x	x	x	x
Termination	x	x	x	x	x
Lever (leaf) attachment		x	x	x	x
Roller attachment					x

2.4 Quality conformance inspection

Quality conformance inspection is prescribed in table 6 herein for lot-by-lot inspection, and in table 7 herein for periodic inspection.

Table 6 – Test schedule for lot-by-lot inspection

Subclause number and test designation (See note 1)	Assessment level	
	IL	AQL
Group A (non-destructive)		
4.3.1 Visual examination	II	1,0
4.3.2 Contact resistance	II	1,0
4.3.5 Functional operation	II	1,0
4.5.1 Voltage proof	S2	1,0
4.3.6 Operating characteristics	S2	1,0
NOTES		
1 The subclause numbers of the test and performance requirements refer to the generic specification for electro-mechanical switches, IEC 1020-1, with the supplementary requirements specified in this section.		
2 In this table:		
IL = inspection level;		
AQL = acceptable quality level.		

Table 7 – Test schedule for periodic tests

Subclause number and test designation (See note 1)	Conditions of test (See note 1)		Sample size and criterion for acceptability (See note 2)			Performance requirements (See note 1)
			<i>p</i>	<i>n</i>	<i>c</i>	
Group B (destructive) 4.13.1 Solderability	Type	Test	12	4	0	
	1, 2, 3	12b soldering iron tip: style B		0		
	5, 6, 7, 8,	12a		0		
Group C (destructive) 4.10.1 Electrical endurance C, T, R 4.6.1 Temperature rise 4.5.1 Voltage proof 4.3.6 Operating characteristics	See table 4 Half of the test units (rating codes M, S only) and the same contacts from test 4.10.1 1 000-V and 600 V for M, S			4	1	No damage Leakage current: ≤ 500 µA See table 8
Group D (destructive)	(Requalification according to table 3 and table 4)		36	4	1	

NOTES

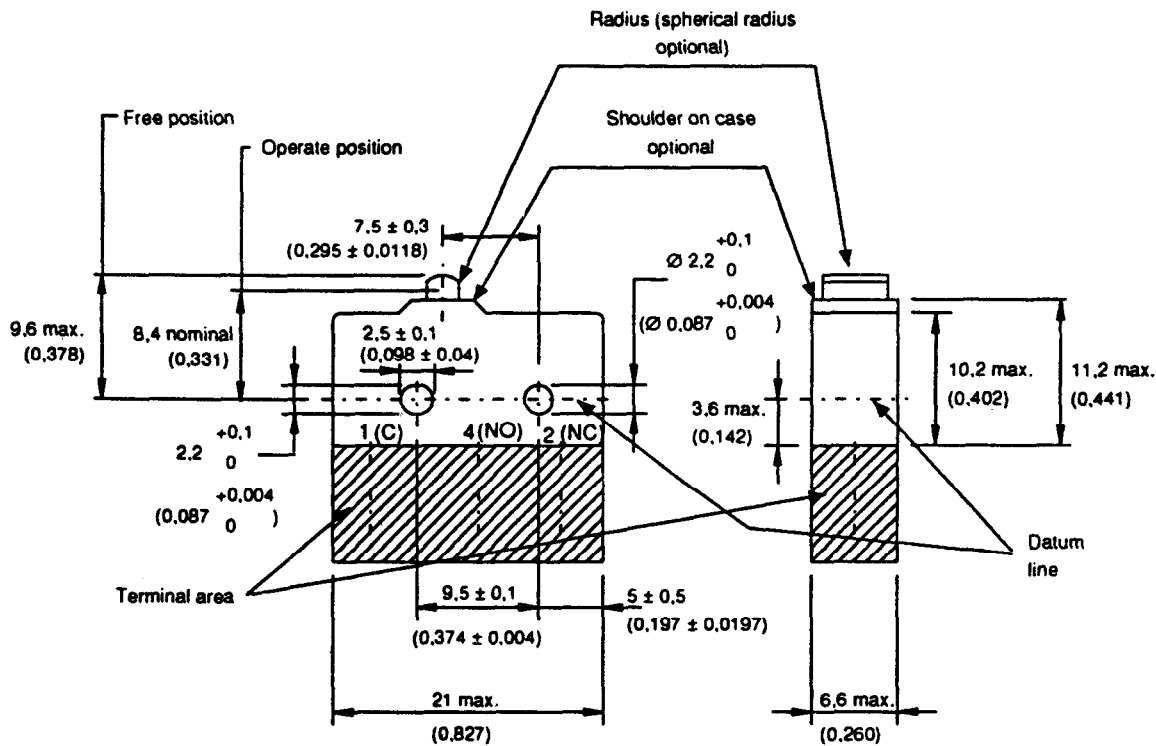
- 1 The subclause numbers of the test and performance requirements refer to the generic specification for electromechanical switches, IEC 1020-1, with the supplementary requirements specified in this section.
- 2 In these groups, all specimens shall be subjected to the required tests and all tests shall be performed in the sequence shown.
- 3 In this table:

p = periodicity in months;
n = sample size;
c = group acceptance criterion (permitted number of defectives per group);
a = number of styles to be tested;
b = number of variants to be tested.

3 Reference documents

IEC 760: 1989, *Flat, quick-connect terminations*
Amendment No. 1 (1993)

IEC 1058-1: 1990, *Switches for appliances – Part 1: General requirements*

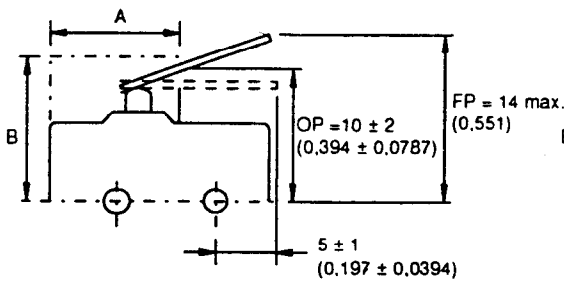


Type 1 - Pin plunger

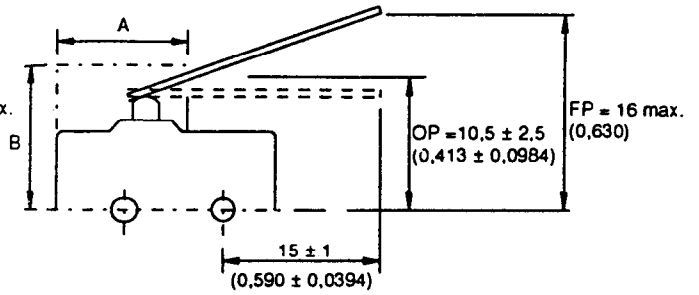
NOTES

- 1 Dimensions are denoted as follows: 0,0 = mm } Applicable to
(0,000) = inch } all figures
- 2 Original dimensions are in millimetres.
- 3 For tolerances on operate position and for other functional characteristics, see table 2.
- 4 Optional terminal marking C, NO, NC.

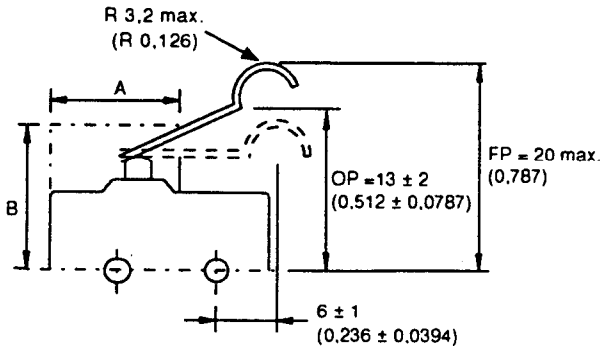
Figure 1 - Mounting dimensions



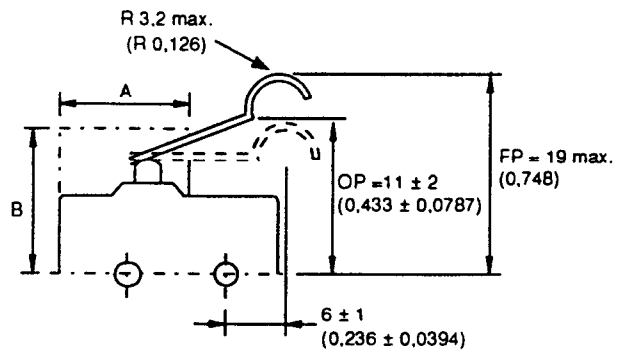
Type 2 - Short straight lever



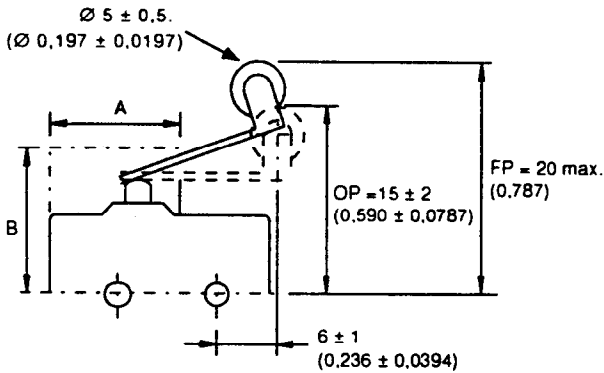
Type 3 - Long straight lever



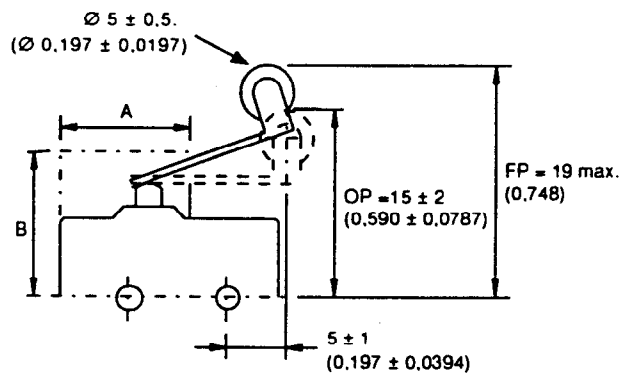
Type 4 - Simulated roller lever



Type 5 - Simulated roller lever



Type 6 - Roller lever

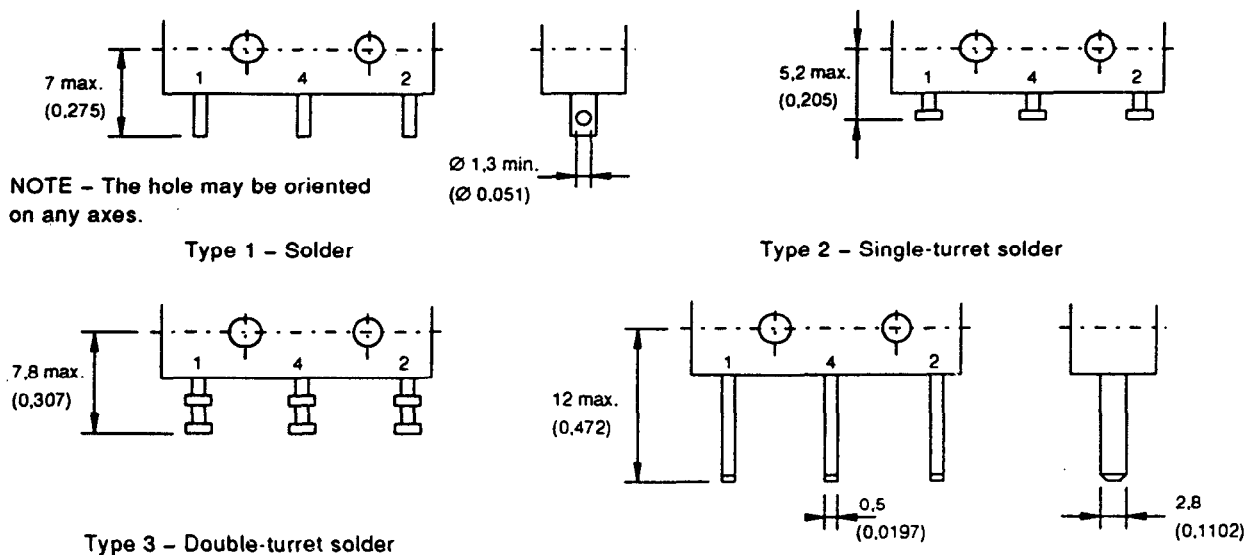


Type 7 - Roller lever

NOTES

- 1 OP = Operate position;
FP = Free position.
- 2 A and B (optional) are the maximum permissible dimensions for the area of the actuator attachment. The standard width dimension of 6.6 mm maximum shall not be exceeded.
A = 11 max.
B = 12 max.
- 3 The lever shall not exceed the actual switch width during operation.

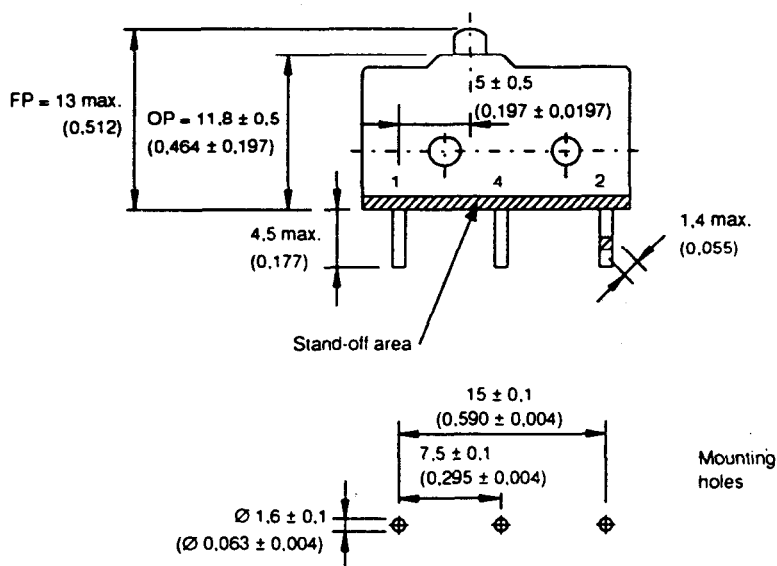
Figure 2 - Standard actuator dimensions



NOTES

- 1 Dimensions of the tabs shall comply with IEC 760.
- 2 The tabs may be oriented on any axis.

Type 4 – Quick connect 2,8 × 0,5

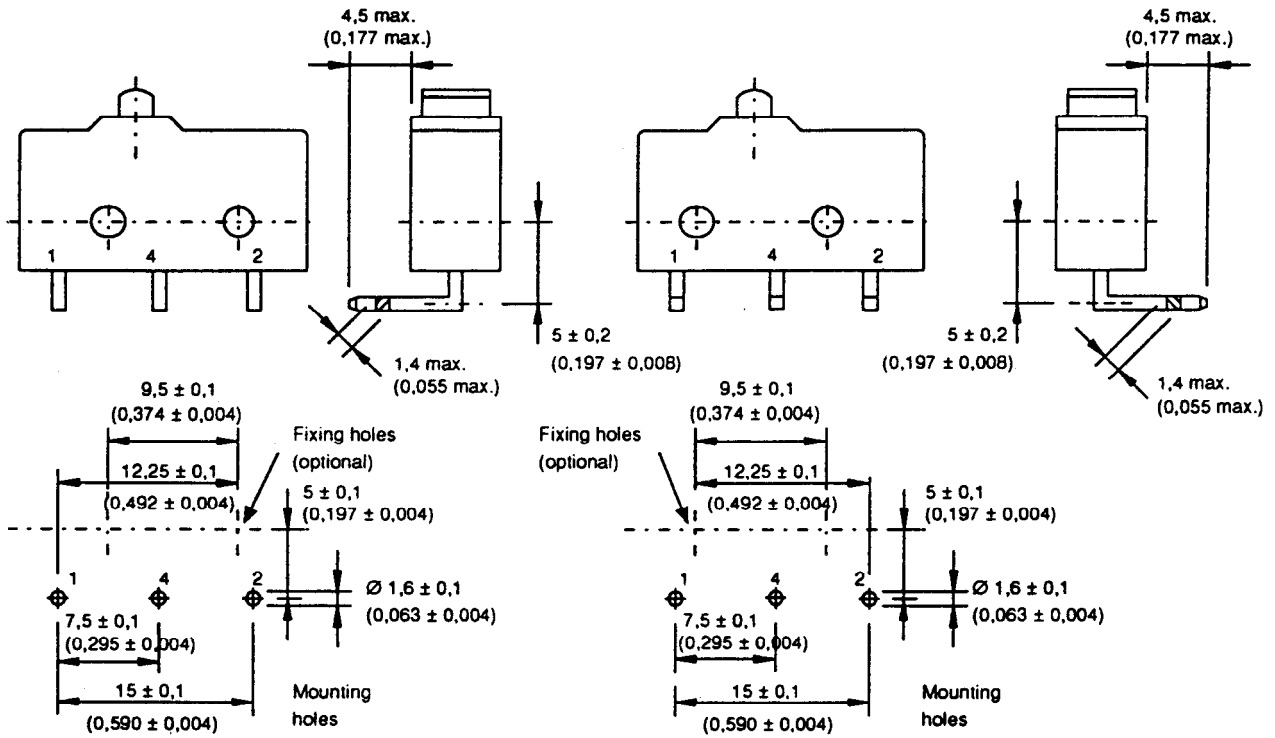


NOTES

- 1 Recommended thickness of printed board = 1,6 mm (0,063).
- 2 According to IEC 97 alternate distance between axes:
7,62 ± 0,1 (0,300 ± 0,004)
15,24 ± 0,1 (0,600 ± 0,004)

Type 5 – Printed board

Figure 3 – Terminal dimensions



NOTES

1 Recommended thickness of printed board = 1,6 mm (0,063).

2 According to IEC 97 alternate distance between axes:

7,62 ± 0,1 (0,300 ± 0,004)
15,24 ± 0,1 (0,600 ± 0,004)

NOTES

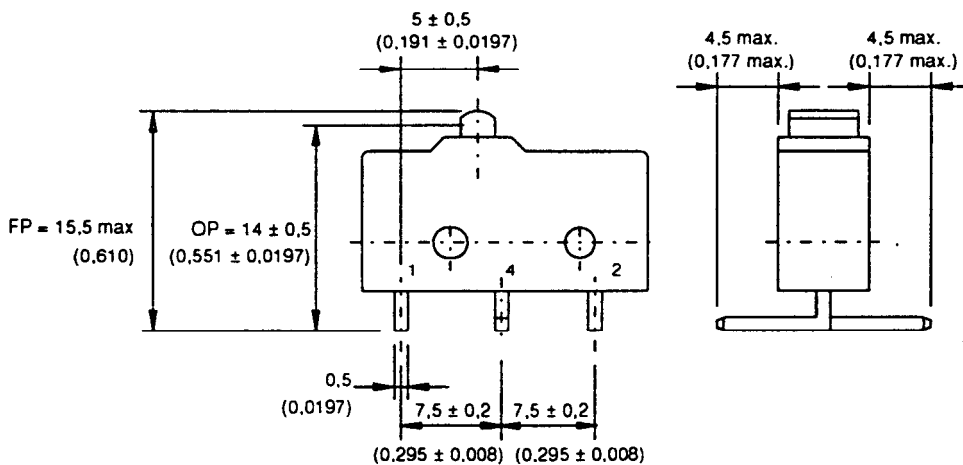
1 Recommended thickness of printed board = 1,6 mm (0,063).

2 According to IEC 97 alternate distance between axes:

7,62 ± 0,1 (0,300 ± 0,004)
15,24 ± 0,1 (0,600 ± 0,004)

Type 6 – Side mounted printed board (rear)

Type 7 – Side mounted printed board (front)



Type 8 – Surface mounting

Figure 3 (concluded) – Terminal dimensions